

**Remarks:**

Reconsideration of the application is respectfully requested.

Claims 1 - 18 are presently pending in the application.

Claims 1, 2 and 5 - 8 have been amended.

Applicants note that item 2 of the Office Action indicated, in part, that claims 1 - 9, 11 and 13 - 18 are independent claims. Applicants respectfully disagree. Rather, each of claims 3 - 9, 11 and 13 - 18 refer to, and thus incorporate therein, either Applicants' independent claim 1 or independent claim 2. For example, Applicants claim 3 recites, among other limitations:

determining random numbers according to claim 1;  
[emphasis added by Applicants]

Applicants' claim 6, for example, recites, among other limitations:

computer-executable instructions for carrying out the method according to claim 2 for determining the sequences of random numbers of the 1/f noise.  
[emphasis added by Applicants]

MPEP § 608.1(n) (II) states, in part:

The initial determination, for fee purposes, as to whether a claim is dependent must be made by persons other than the examiners; it is necessary, at that time, to accept as dependent virtually every claim

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which refers to another claim, without determining whether there is actually a true dependent relationship. [emphasis added by Applicants]

MPEP § 608.1(n) (II) further states, in part:

The fact that the independent and dependent claims are in different statutory classes does not, in itself, render the latter improper. Thus if claim 1 recites a specific product, a claim for the method of making the product of claim 1 in a particular manner would be a proper dependent claim since it could not be infringed without infringing claim 1. Similarly, if claim 1 recites a method of making a product, a claim for a product made by the method of claim 1 could be a proper dependent claim.

As such, the instant application has only two pending independent claims, i.e. independent claim 1 and independent claim 2. Claims 3, 5, 7, 9, 10, 13, 15 and 17, ultimately depend from Applicants' independent claim 1, while claims 4, 6, 8, 11 - 12, 14, 16 and 18, ultimately depend from Applicants' independent claim 2.

In item 4 of the above-identified Office Action, claims 1 - 18 were objected to under 35 U.S.C. § 101, because the claimed invention is allegedly directed towards non-statutory subject matter. More particularly, pages 2 - 3 of the Office Action alleged, in part:

However, claims 1-18 are directed to a method, program, computer readable medium, and a system which solely solves a mathematical expression to generate a set of random numbers without disclosing a particular practical application of that mathematical expression

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as generating a sequence of random numbers based on a covariance matrix. They also fail to produce a useful and tangible result. In detail additional to above analysis, claims 1-2 and 13-14 are purely mathematical operation in computer system; claims 3-4, 15-16 and 17-18 are simulation systems but fails to disclose any hardware components for simulating the system, claims 5-6 are directed to purely software per se, which lacking storage on a medium to enable claims of an abstract ideal; and finally, claims 9-12 raise an issue of preemption, which attempt to claim every substantial practical application of an abstract idea and further these claims are carrier signal claims as download methods.

Applicants respectfully disagree that the claims, as amended herein, are non-statutory subject matter under 35 U.S.C. § 101. More particularly, Applicants' claims 1 and 2 have been amended to recite, among other limitations:

A computer implemented method for numeric simulation of an electric circuit influenced by noise, comprising the steps of:

numerically simulating the electric circuit using a model including input channels, noise input channels and output channels, the behavior of the input channels and of the output channels being described by a system of differential equations or a by a system of differential algebraic equations;

in the numerical simulation step, calculating an output vector for an input vector present on the input channels and a noise vector y of 1/f distributed random numbers present on the noise input channel,  
[emphasis added by Applicants]

The amendments to Applicants' claims 1 and 2 are supported by the specification of the instant application, for example, on page 1 of the instant application, line 24 - page 2, line 4, which states:

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1/f noise sources are suitable for modeling noise influences in a multiplicity of technical and physical systems, and for systems for estimating and forecasting events on the financial markets. In particular, many electronic components such as, for example, pn diodes and MOS field-effect transistors exhibit 1/f noise sources. [emphasis added by Applicants]

See also, for example, page 7 of the instant application, lines 1 - 8, which states:

The present invention specifies a method for generating sequences of 1/f-distributed random numbers successively, that is to say element by element. In this case, the method ensures that each newly generated random number depends in a correct way in the stochastic sense on the previously generated 1/f-distributed random numbers. It is thereby possible to generate the respectively required random numbers in the course of the numerical simulation of a circuit. [emphasis added by Applicants]

See also, for example, page 1 of the instant application, lines 16 - 18, which state:

Random numbers of a 1/f noise can be used, for example, in a transient circuit simulation that takes account of noise influences. [emphasis added by Applicants]

See also, for example, page 21 of the instant application, lines 8 - 12, 14 - 17 and line 19 - page 22, line 2, for support for the further amendments to claims 1 and 2. As such, Applicants' claims are believed to have a particular practical application, namely, simulation of an electric circuit. Further, Applicants' claimed invention produces a

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useful and tangible result, namely, the results of the simulation of an electric circuit, including **an output vector** for an input vector present on the input channels and a noise vector  $y$  of  $1/f$  distributed random numbers present on the noise input channel. As such, Applicants' claims are believed to be statutory subject matter under 35 U.S.C. § 101.

Further, claims 3-4, 15-16 and 17-18 were rejected as being simulation systems but allegedly failing to disclose any hardware components for simulating the system. Applicants' claims 1 and 2, one or the other of which is incorporated into each of claims 3-4, 15-16 and 17-18, in their entireties, recite, among other things "a computer implemented method for numeric simulation of an electric circuit influenced by noise". Applicants' believe that the hardware involved in a "computer" are clearly known to a person of ordinary skill in this art. Thus, the recitation of a computer in the claims is believed to define the "hardware components for simulating the system", to a person of skill in this art. As such, claims 3 - 4, 15 - 16 and 17 - 18 are further believed to be patentable under 35 U.S.C. § 101.

Applicants' claims 5 - 6 have been amended to recite, among other limitations, "a computer running a computer program . . . " and thus, are not "purely for software", as alleged on

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page 3 of the Office Action. Similarly, Applicants' claims 7 - 8 have been amended to recite, among other limitations, "a computer running the instructions stored on a computer-readable data medium", and thus claims 7 - 8 additionally recite the interaction with the computer. The amendments to claims 5 - 6 and 7 - 8 are supported by the specification of the instant application, for example, on page 3 of the instant application, lines 2 - 5, which state:

Finally, the aim is also to **specify a computer system having a computer program** for determining sequences of random numbers of 1/f noise that can be executed quickly and that lays claim to only a few resources of a computer system. [emphasis added by Applicants]

Further, Applicants' claims 9 - 12 do not suffer from preemption, as they recite downloading a particular computer program relating to a particular operation, namely, **the numerical simulation of an electric circuit using a particular method**. As such, Applicants' claims 9 - 12 do not preempt either pure downloading of a computer program, nor do they relate to an abstract idea.

In view of the foregoing, it can be seen that Applicants' claims are directed towards a particular practical application having a real word use and produce a concrete and tangible result. Thus, Applicants' claims are believed to be statutory subject matter under 35 U.S.C. § 101.

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Further, on page 3 of the Office Action, claims 1 - 18 were rejected under the judicially created doctrine of obviousness-type double patenting in view of copending U. S. Patent Application Serial No. 10/289,827. The rejection was indicated, on pages 6 - 7 of the Office Action, as being maintained for purposes of the record. Applicant reiterates that a terminal disclaimer can be filed in one of the present application and co-pending Application No. 10/289,827, if the claims of the present application and the claims in the co-pending Application No. 10/289,827, remain obvious over each other at the time of allowance of either of these applications. At such a time as one of the two cases is indicated as being allowable, and if the claims of the two cases remain obvious over one another, Applicants will file a terminal disclaimer **in connection with the later-filed application** (i.e., the '827 application), as required by the MPEP.

Further, in item 6 of the Office Action, the amendment filed on January 2, 2007 was objected to under 35 U.S.C. § 132(a) as allegedly introducing new matter into the disclosure. More particularly, it was alleged on page 5 of the Office Action that the "newly added limitation "storing" is not sufficiently supported in the original specification". Applicants

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respectfully disagree and believe, as stated in the amendment of January 2, 2007, that such "storing" is inherently present in any computer system performing the claimed steps, and would be understood to be present. Further, the instant application specifically addresses the computer **storage** requirements for running a computer simulation. For example, page 2 of the instant application, lines 12 - 17 state:

It is disadvantageous in this mode of procedure for the dimension of the system of differential equations that are solved numerically to be excessively inflated. The result of this is long computing times and a high storage requirement of a computer system that is used to simulate a system that is subject to the influence of 1/f noise. [emphasis added by Applicants]

The instant application then goes on to provide a contrast to the **disadvantages** of the prior art system (i.e., long computing times and high **storage** requirement), on page 2 of the instant application, lines 20 - 25, which state:

It is accordingly an object of the invention to provide a method for on-demand generation of individual random numbers of a sequence of random numbers of 1/f noise that overcomes the above-mentioned disadvantages of the prior art methods of this general type, which can be carried out quickly and with a low computational outlay. [emphasis added by Applicants]

See also, page 3 of the instant application, lines 2 - 5, stating:

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Finally, the aim is also to specify a computer system having a computer program for determining sequences of random numbers of 1/f noise that can be executed quickly and that lays claim to only a few resources of a computer system. [emphasis added by Applicants]

As such, the parallel comparison made in the instant application, between the prior art system that has "long computing times and a high storage requirement of a computer system" and the present system, which "can be carried out quickly and with a low computational outlay", confirms that the simulation and its results are stored in the present invention. More particularly, it is clear from a reading of the instant application, that the "low computational outlay" that is an advantage of the present invention, addresses the "high storage requirement" disadvantage of the prior art. As such, the instant application affirmatively discloses storing the information generated during the simulation, but using a lesser amount of storage (i.e., "low computational outlay"), than does the prior art. As such, Applicants' believe that storage of the simulation is both inherently and affirmatively disclosed in the instant application. However, in the interest of expeditiously advancing prosecution of the present application, Applicants have canceled the "storing" limitation from claims 1 and 2.

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It is accordingly believed that Applicants' claims are in condition for allowance, and that such claims are also patentable over the prior art.

In view of the foregoing, reconsideration and allowance of claims 1 - 18 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate receiving a telephone call so that, if possible, patentable language can be worked out.

If an extension of time for this paper is required, petition for extension is herewith made.

Please charge any fees that might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner Greenberg Stemer LLP, No. 12-1099.

Respectfully submitted,



For Applicants

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